

**FIGURE 1** (Sheet 1 of 8)

tgctccaatgcagcgatctgtgccccgaggggttcggaaggcgcaagctgggcagcgacat  
1 -----+-----+-----+-----+-----+ 60  
acgaggttacgtcgctagacacgggctccccaagccttcgcggttcgacccgctcgctgta

b M -

ggggaacgcggagcgggctccggggtctcggagctttgggcccgtacccacgctgctgct  
61 -----+-----+-----+-----+-----+ 120  
ccccttgcgctcgccccgagggccccagagcctcgaaaccgggcatgggtgcgacgacga

b G N A E R A P G S R S F G P V P T L L L -

gctcgccgcggcgctactggccgtgtcggacgcactcgggcgcccctccgaggaggacga  
121 -----+-----+-----+-----+-----+ 180  
cgagcggcgccgcgatgaccgggcacagcctgcgtgagcccgcggggaggtcctcctgct

b L A A A L L A V S D A L G R P S E E D E -

ggagctagtgggtgccggagctggagcgcgccccgggacacgggaccacgcgcctccgcct  
181 -----+-----+-----+-----+-----+ 240  
cctcgatcaccacggcctcgacctcgcgcgggggccctgtgccctggtgcgcggaggcgga

b E L V V P E L E R A P G H G T T R L R L -

gcacgcctttgaccagcagctggatctggagctgcggcccgcagcagctttttggcgcc  
241 -----+-----+-----+-----+-----+ 300  
cgtgcggaaactggtcgctcgacctagacctcgacgccgggctgtcgctcgaaaaaccgcgg

b H A F D Q Q L D L E L R P D S S F L A P -

cggcttcacgctccagaacgtggggcgcaaataccgggtccgagacgccgcttccggaaac  
301 -----+-----+-----+-----+-----+ 360  
gccgaagtgcgaggtcttgcaccccgcggttaggccaggctctgcggcgaaggcctttg

b G F T L Q N V G R K S G S E T P L P E T -

cgacctggcgcaactgcttctactccggcacccgtgaatggcgatcccagctcggctgcgc  
361 -----+-----+-----+-----+-----+ 420  
gctggaccgcgtgacgaagatgaggccgtggcacttaccgctagggctcgagccgacggcg

b D L A H C F Y S G T V N G D P S S A A A -

cctcagcctctgcgagggcggtgcgcgggcgccttctacctgctgggggaggcgatatttcat  
421 -----+-----+-----+-----+-----+ 480  
ggagtcggagacgctcccgcacgcgcgcgggaagatggacgacccccctccgcataaagta

b L S L C E G V R G A F Y L L G E A Y F I -

FIGURE 1 (Sheet 2 of 8)

ccagccgctgccgcgccagcgagcgccctcgccaccgcccaggggagaagccgcc  
481 -----+-----+-----+-----+-----+ 540  
ggtcggcgacgggcggcggtcgctcgcgagcggtggcggggggtccctcttcggcgg  
b Q P L P A A S E R L A T A A P G E K P P -  
ggcaccactacagttccacctcctgcggcggaatcggcagggcgacgtcggcggcacgtg  
541 -----+-----+-----+-----+ 600  
ccgtggtgatgtcaaggtggaggacgcgccttagccgtcccgtgcagccgcgtgcac  
b A P L Q F H L L R R N R Q G D V G G T C -  
cggggtcgtggacgacgagccccggccgactgggaaagcggagaccgaagacgaggacga  
601 -----+-----+-----+-----+ 660  
gccccagcacctgctgctcggggcccgtgaccctttcgctctggtctctgctcctgct  
b G V V D D E P R P T G K A E T E D E D E -  
agggactgagggcgaggacgaaggggctcagtggtcgcccaggaaccggcactgcaagg  
661 -----+-----+-----+-----+ 720  
tccttgactcccgtcctgcttccccgagtcaccagcggcgtcctgggcggtgacgttcc  
b G T E G E D E G A Q W S P Q D P A L Q G -  
cgtaggacagcccacaggaactggaagcataaagaagcgatttggtgtccagtcccg  
721 -----+-----+-----+-----+ 780  
gcatcctgtcgggtgtccttgaccttcgtattcttcttcgctaaacacaggtcagtggc  
b V G Q P T G T G S I R K K R F V S S H R -  
ctatgtggaaccatgcttggtggcagaccagtcgatggcagaattccacggcagtggtct  
781 -----+-----+-----+-----+ 840  
gatacacctttggtacgaacaccgtctgggtcagctaccgtcttaaggtgccgtcaccaga  
b Y V E T M L V A D Q S M A E F H G S G L -  
aaagcattaccttctcacgttggttttcgggtggcagccagattgtacaaacacccagcat  
841 -----+-----+-----+-----+ 900  
tttcgtaatggaagagtgaacaaaagccaccgtcgggtctaactgtttgtggggtcgta  
b K H Y L L T L F S V A A R L Y K H P S I -  
tcgtaattcagttagcctgggtgggtgaagatcttggtcatccacgatgaacagaagg  
901 -----+-----+-----+-----+ 960  
agcattaagtcaatcggaccaccaccacttctagaaccagtaggtgctacttgtcttccc  
b R N S V S L V V V K I L V I H D E Q K G -

FIGURE 1 (Sheet 3 of 8)

gccggaagtgacctccaatgctgccctcactctgcggaacttttgcaactggcagaagca  
961 -----+-----+-----+-----+-----+ 1020  
cggccttcactggagggttacgacgggagtgagacgccttgaaaacgttgaccgtcttcgt  
b P E V T S N A A L T L R N F C N W Q K Q -

gcacaacccacccagtgaccgggatgcagagcactatgacacagcaattcttttcaccag  
1021 -----+-----+-----+-----+-----+ 1080  
cgtgttgggtgggtcactggccctacgtctcgtgatactgtgtcgttaagaaaagtggtc  
b H N P P S D R D A E H Y D T A I L F T R -

acaggacttgtgtgggtcccagacatgtgatactcttgggatggctgatgttggaactgt  
1081 -----+-----+-----+-----+-----+ 1140  
tgtcctgaacacacccagggtctgtacactatgagaaccctaccgactacaaccttgaca  
b Q D L C G S Q T C D T L G M A D V G T V -

gtgtgatccgagcagaagctgctccgtcatagaagatgatgggtttacaagctgccttcac  
1141 -----+-----+-----+-----+-----+ 1200  
cacactaggctcgtcttcgacgaggcagttatcttctactaccaaagtgttcgacggaagtg  
b C D P S R S C S V I E D D G L Q A A F T -

cacagcccatgaattaggccacgtgtttaacatgccacatgatgatgcaaagcagtggtgc  
1201 -----+-----+-----+-----+-----+ 1260  
gtgtcgggtacttaatccggtgcacaaattgtacggtgtactactacgtttcgtcacacg  
b T A H E L G H V F N M P H D D A K Q C A -

cagccttaatggtgtgaaccaggattcccacatgatggcgtcaatgctttccaacctgga  
1261 -----+-----+-----+-----+-----+ 1320  
gtcgggaattaccacacttggtcctaagggtgtactaccgcagttacgaaaggttggaacct  
b S L N G V N Q D S H M M A S M L S N L D -

ccacagccagccttggtctccttgagtgacctacatgattacatcatttctggataatgg  
1321 -----+-----+-----+-----+-----+ 1380  
gggtgtcggtcggaaccagaggaacgtcacggatgtactaatgtagtaaagacctattacc  
b H S Q P W S P C S A Y M I T S F L D N G -

tcatggggaatgtttgatggacaagcctcagaatcccatcacagctcccaggcgatctccc  
1381 -----+-----+-----+-----+-----+ 1440  
agtacccttacaaaactacctgttcggaggtcttagggatgtgcgaggggtccgctagaggg

FIGURE 1 (Sheet 4 of 8)

b            H G E C L M D K P Q N P I Q L P G D L P -

              tggcacctcgtagcatgccaaccggcagtgccagtttacatttggggaggactccaaaca  
1441 -----+-----+-----+-----+ 1500  
              accgtggagcatgctacggttggccgtcacggtcaaagttaaaccctcctgaggtttgt

b            G T S Y D A N R Q C Q F T F G E D S K H -

              ctgccctgatgcagccagcacatgtagcaccttgtggtgtaccggcacctctggtggggt  
1501 -----+-----+-----+-----+ 1560  
              gacgggactacgtcgggtcgtgtacatcgtggaacaccacatggccgtggagaccaccca

b            C P D A A S T C S T L W C T G T S G G V -

              gctggtgtgtcaaaccaaacacttcccgtgggcggatggcaccagctgtggagaagggaa  
1561 -----+-----+-----+-----+ 1620  
              cgaccacacagtttggtttgtgaagggcaccgcctaccgtggtcgacacctcttccctt

b            L V C Q T K H F P W A D G T S C G E G K -

              atggtgtatcaacggcaagtgtgtgaacaaaaccacagaaagcattttgatacgccctt  
1621 -----+-----+-----+-----+ 1680  
              taccacatagttgccgttcacacacttgttttgggtgtctttcgtaaaactatgcggaaa

b            W C I N G K C V N K T H R K H F D T P F -

              tcatggaagctggggaatgtgggggccttggggagactgttcgagaacgtgcggtggagg  
1681 -----+-----+-----+-----+ 1740  
              agtaccttcgaccccttacacccccggaaccctctgacaagctcttgacgcccacctcc

b            H G S W G M W G P W G D C S R T C G G G -

              agtccagtacacgatgaggggaatgtgacaaccagtcccaaagaatggaggggaagtactg  
1741 -----+-----+-----+-----+ 1800  
              tcaggtcatgtgtactcccttacactgttgggtcagggtttcttacctcccttcatgac

b            V Q Y T M R E C D N P V P K N G G K Y C -

              tgaaggcaaacgagtgcgctacagatcctgtaaccttgaggactgtccagacaataatgg  
1801 -----+-----+-----+-----+ 1860  
              acttcggttgcgtcacgcgatgtctaggacattggaactcctgacaggtctgttattacc

b            E G K R V R Y R S C N L E D C P D N N G -

              aaaaacctttagagaggaacaatgtgaagcacacaacgagttttcaaagcttcctttgg  
1861 -----+-----+-----+-----+ 1920

**FIGURE 1** (Sheet 5 of 8)

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tttttggaatctctccttggttacacttcgtgtgttgctcaaaagttttcgaaggaaacc
b      K T F R E E Q C E A H N E F S K A S F G -

gagtgggcctgcggtggaatggattcccaagtacgctggcgtctcaccaaaggacaggtg
1921  -----+-----+-----+-----+-----+ 1980
ctcaccggaacgccaccttacctaagggttcacgacgcagagtggtttcctgtccac

b      S G P A V E W I P K Y A G V S P K D R C -

caagctcatctgccaaagccaaaggcattggctacttcttcgttttgagcccaaggttgt
1981  -----+-----+-----+-----+-----+ 2040
gttcgagtagacggttcggtttccgtaaccgatgaagaagcaaacgctcggttccaaca

b      K L I C Q A K G I G Y F F V L Q P K V V -

agatggtaactccatgtagccagattccacctctgtctgtgtgcaaggacagtgtgtaaa
2041  -----+-----+-----+-----+-----+ 2100
tctaccatgaggtacatcggttctaagggtggagacagacacacgttcctgtcacacattt

b      D G T P C S P D S T S V C V Q G Q C V K -

agctggttgtgatcgcatcatagactccaaaaagaagtttgataaatgtggtgtttgcgg
2101  -----+-----+-----+-----+-----+ 2160
tcgaccaacactagcgtagtatctgaggtttttcttcaaactatttacaccacaaacgcc

b      A G C D R I I D S K K K F D K C G V C G -

gggaaatggatctacttgtaaaaaaatatcaggatcagttactagtgcaaaacctggata
2161  -----+-----+-----+-----+-----+ 2220
ccctttacctagatgaacatttttttatagtcctagtcaatgatcacgttttggacctat

b      G N G S T C K K I S G S V T S A K P G Y -

tcatgatatcatcacaattccaactggagccaccaacatcgaagtgaacacagcggaacca
2221  -----+-----+-----+-----+-----+ 2280
agtactatagtagtggttaagggttgacctcggtggttgtagcttcaactttgtcgcccttgg

b      H D I I T I P T G A T N I E V K Q R N Q -

gaggggatccaggaacaatggcagctttcttgccatcaaagctgctgatggcacatatat
2281  -----+-----+-----+-----+-----+ 2340
ctcccctaggtccttggttacgctcgaaagaacggttagtttcgacgactaccgtgtatata

b      R G S R N N G S F L A I K A A D G T Y I -

tcttaatggtgactacactttgtccaccttagagcaagacattatgtacaaaggtgttgt

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**FIGURE 1** (Sheet 6 of 8)

2341 -----+-----+-----+-----+-----+-----+ 2400  
agaattaccactgatgtgaaacaggtggaatctcgttctgtaatacatgtttccacaaca  
b L N G D Y T L S T L E Q D I M Y K G V V -

cttgagggtacagcgggtcctctgcggcattggaaagaattcgcagcttttagccctctcaa  
2401 -----+-----+-----+-----+-----+-----+ 2460  
gaactccatgtcgccgaggagacgccgtaacctttcttaagcgtcgaaatcgggagaggtt  
b L R Y S G S S A A L E R I R S F S P L K -

agagcccttgaccatccaggttcttactgtgggcaatgcccttcgacctaaaattaaata  
2461 -----+-----+-----+-----+-----+-----+ 2520  
tctcgggaactggttaggtccaagaatgacacccggttacgggaagctggattttaatttat  
b E P L T I Q V L T V G N A L R P K I K Y -

cacctacttcgtaaagaagaagaaggaatctttcaatgctatccccactttttcagcatg  
2521 -----+-----+-----+-----+-----+-----+ 2580  
gtggatgaagcatttcttcttcttcttcttagaaagttacgataggggtgaaaaagtcgtac  
b T Y F V K K K K E S F N A I P T F S A W -

ggtcattgaagagtggggcgaaatgttctaagtcagtgaattgggttggcagagaagact  
2581 -----+-----+-----+-----+-----+-----+ 2640  
ccagtaacttctcaccgcgttacaagattcagtaacttaaccaaacgtctcttctga  
b V I E E W G E C S K S C E L G W Q R R L -

ggtagaatgccgagacattaatggacagcctgcttccgagtgtgcaaaggaagtgaagcc  
2641 -----+-----+-----+-----+-----+-----+ 2700  
ccatcttacggctctgtaattacctgtcggacgaaggctcacacgttttcttcaacttcgg  
b V E C R D I N G Q P A S E C A K E V K P -

agccagcaccagaccttgtgcagaccatccctgccccagtggcagctgggggagtggtc  
2701 -----+-----+-----+-----+-----+-----+ 2760  
tcggtcgtggtctggaacacgtctggtagggacgggggtcacgcgtcgacccccctcaccag  
b A S T R P C A D H P C P Q W Q L G E W S -

atcatgttctaagacctgtgggaagggttacaaaaaagaagcttgaagtgtctgtccca  
2761 -----+-----+-----+-----+-----+-----+ 2820  
tagtacaagattctggacacccttcccaatgttttttcttcgaacttcacagacaggggt  
b S C S K T C G K G Y K K R S L K C L S H -

**FIGURE 1** (Sheet 7 of 8)

2821      tgatggaggggtgttatctcatgagagctgtgatccctttaagaaacctaacatttcat  
-----+-----+-----+-----+ 2880  
actacctccccacaatagagtactctcgacactaggaaatttctttggatttgtaaagta

b            D G G V L S H E S C D P L K K P K H F I -

2881      agacttttgcacaatggcagaatgcagttaagtggtttaagtgggtgtagctttgagggc  
-----+-----+-----+-----+ 2940  
tctgaaaacgtgttacgtcttacgtcaattcaccaaattcaccacaatcgaaactcccg

b            D F C T M A E C S \* -

2941      aaggcaaagtgaggaagggctggtgcagggaaagcaagaaggctggagggatccagcgta  
-----+-----+-----+-----+ 3000  
ttcggtttcactccttcccgaccacgtccctttcggttcttccgacctccctaggtcgcat

3001      tcttgccagtaaccagtgaggtgtatcagtaagggtgggattatgggggtagatagaaaag  
-----+-----+-----+-----+ 3060  
agaacgggcattggtcactccacatagtcattccaccctaatacccccatctatcttttc

3061      gagttgaatcatcagagtaaactgccagttgcaaatttgataggatagttagtgaggatt  
-----+-----+-----+-----+ 3120  
ctcaacttagtagtctcatttgacggtcaacgtttaactatcctatcaatcactcctaa

3121      attaacctctgagcagtgatatagcataataaagccccgggcattattattattatttct  
-----+-----+-----+-----+ 3180  
taattggagactcgtcactatatcgtattattttcggggcccgtaataataataataaaga

3181      tttgttacatctattacaagtttagaaaaaaciaaagcaattgtcaaaaaagttagaact  
-----+-----+-----+-----+ 3240  
aaacaatgtagataatgttcaaactcttttttggttcgttaacagtttttttcaatcttga

3241      attacaacctgtttcctggtacttatcaaaatacttaagtatcatgggggttgggaaa  
-----+-----+-----+-----+ 3300  
taatgttggggacaaaggaccatgaatagttttatgaattcatagtacccccaaccttt

3301      tgaaaagtaggagaaaagtgagattttacttaagacctgttttactttaccttcactaac  
-----+-----+-----+-----+ 3360  
acttttcatcctcttttctactctaaaatgaattctggacaaaatgaaatggaagtgattg

3361      aatgggggggagaaaggagtacaaataggatctttgaccagcactgtttatggctgctatg  
-----+-----+-----+-----+ 3420  
ttacccccctctttcctcatgtttatcctagaaactgggtcgtgacaaataccgacgatac

# FIGURE 1 (Sheet 8 of 8)

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gtttcagagaatgtttatacattatctaccgagaattaaaacttcagattgttcaaca
3421 -----+-----+-----+-----+-----+ 3480
caaagtctcttacaaatatgtaataaagatggctcttaattttgaagtctaacaagttgt

tgagagaaaggctcagcaacgtgaaataacgcaaattggcttctctttccttttttgac
3481 -----+-----+-----+-----+-----+ 3540
actctctttccgagtcgttgcactttattgctttaccgaaggagaaaggaaaaaacctg

catctcagtcctttatttgtgtaattcattttgaggaaaaaacaactccatgtatttattc
3541 -----+-----+-----+-----+-----+ 3600
gtagagtcagaaataaacacattaagtaaaaactccttttttggtgaggtacataaataag

aagtgcattaaagtctacaatggaaaaaaagcagtgagcattagatgctggtaaaagct
3601 -----+-----+-----+-----+-----+ 3660
ttcacgtaatttcagatgttaccttttttctgtaacttcgtaatctacgaccattttcga

agaggagacacaatgagcttagtacctccaacttctctttcttaccatgtaaccctg
3661 -----+-----+-----+-----+-----+ 3720
tctcctctgtgttactcgaatcatggaggttgaaggaaagaaaggatggtacattgggac

ctttgggaatatggatgtaaagaagtaacttgtgtctcatgaaaatcagtacaatcacac
3721 -----+-----+-----+-----+-----+ 3780
gaaacccttatacctacatttcttcattgaacacagagtacttttagtcatgttagtgtg

aaggaggatgaaacgccggaacaaaaatgaggtgtgtagaacaggggtcccacaggtttgg
3781 -----+-----+-----+-----+-----+ 3840
ttctcctactttgcggccttggtttttactccacacatcttgtcccaggggtgtccaaacc

ggacattgagatcacttgtcttgtggtggggaggctgctgaggggtagc
3841 -----+-----+-----+-----+-----+ 3889
cctgtaactctagtgaacagaacaccaccctccgaagactccccatcg

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